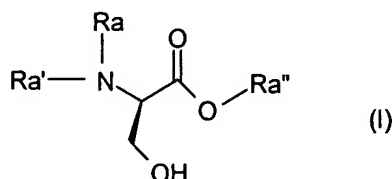


DT05 Rec'd PCT/PTO 11 FEB 2005

CLAIMS

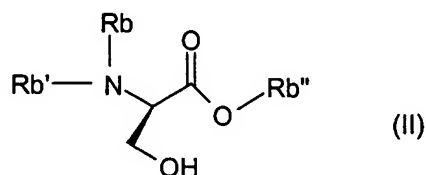
1. Use of a *R*(+)-2-amino-3-hydroxypropanoic acid derivative of formula I



wherein Ra is a hydrogen, Ra' is a hydrogen, a straight or branched chain (C₃-C₆)alkenyl, 3-oxo(C₄-C₆)alkyl, 3-oxo(C₄-C₆)alken-2-yl group, a phenyl(C₁-C₆)alkyl, phenyl(C₂-C₆)alkenyl, gem-diphenyl(C₁-C₆)alkyl, gem-diphenyl(C₂-C₆)alkenyl, *R*(+)-2-aminopropionyl, *S*(-)-2-aminopropionyl, N-(C₂-C₆)alcanoyl-*R*(+)-2-aminopropionyl, N-(C₂-C₆)alcanoyl-*S*(-)-2-aminopropionyl, N-benzyloxycarbonyl-*R*(+)-2-aminopropionyl, N-benzyloxycarbonyl-*S*(-)-2-aminopropionyl, *R*(+)-2,6-diamino-*n*-hexanoyl, *S*(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-(C₂-C₆)alcanoyl-*R*(+)-2,6-diamino-*n*-hexanoyl, N,N'-(C₂-C₆)alcanoyl-*S*(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-*R*(+)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-*S*(-)-2,6-diamino-*n*-hexanoyl group; or Ra and Ra' are together a phenyl(C₁-C₆)alkylidene or gem-diphenyl(C₁-C₆)alkylidene group; Ra'' is a hydrogen, a straight or branched chain (C₁-C₆)alkyl group or a (C₃-C₆)cycloalkyl(C₁-C₆)alkyl, phenyl(C₁-C₂)alkyl or phenacetyl group, the phenyl group or groups present in the substituents Ra, Ra' and Ra'' being non-substituted or substituted by a halogen atom or by a hydroxy, (C₁-C₃)alkoxy, cyano, nitro or acetyl group, with the proviso that, when Ra and Ra' are both H, then Ra'' is other than a hydrogen, (C₁-C₆)alkyl or non-substituted benzyl; or of one of its pharmaceutically acceptable salts, for preparation of drugs for the treatment of cognitive disorders or mnestic disorders which accompany CNS diseases due to reduced glycinergic transmission.

2. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is schizophrenia.
3. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is autism.
4. Use according to claim 1, wherein said CNS disease due to reduced glycinergic transmission is Alzheimer's disease.
5. Use according to any of claims 1 to 4, wherein said *R*(+)-2-amino-3-hydroxypropanoic acid derivative is selected from the group comprising N-[*R*(+)-2-aminopropionyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, N-[*S*(-)-2-aminopropionyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, N-[2-[*S*(-)-benzyloxycarbonylamino]propionyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, N-benzyl-*R*(+)-2-amino-3-hydroxypropanoic acid and pharmaceutically acceptable salts thereof.

6. A pharmaceutical composition comprising, as active principle, a pharmaceutically effective dose of a *R*(+)-2-amino-3-hydroxypropanoic acid derivative of formula II

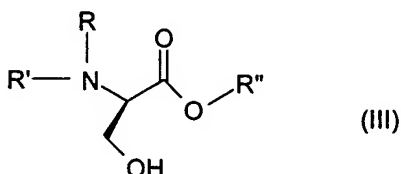


wherein Rb is a hydrogen, Rb' is a hydrogen, a straight or branched chain (C₃-C₆)alkenyl, 3-oxo(C₄-C₆)alkyl, 3-oxo(C₄-C₆)alken-2-yl group, a phenyl(C₁-C₆)alkyl, phenyl(C₂-C₆)alkenyl, gem-diphenyl(C₁-C₆)alkyl, gem-diphenyl(C₂-C₆)alkenyl, N-(C₂-C₆)alcanoyl-*R*(+)-2-aminopropionyl, N-(C₂-C₆)alcanoyl-*S*(-)-2-aminopropionyl, N-benzyloxycarbonyl-*R*(+)-2-aminopropionyl, N-benzyloxycarbonyl-*S*(-)-2-aminopropionyl, *R*(+)-2,6-diamino-*n*-hexanoyl, *S*(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-(C₂-C₆)alcanoyl-*R*(+)-2,6-diamino-*n*-hexanoyl, N,N'-(C₂-C₆)alcanoyl-*S*(-)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-*R*(+)-2,6-diamino-*n*-hexanoyl, N,N'-bis-benzyloxycarbonyl-*S*(-)-2,6-diamino-*n*-hexanoyl group; or Rb and Rb', are together a phenyl(C₁-C₆)alkylidene or gem-diphenyl(C₁-C₆)alkylidene group; Rb'' is a hydrogen, a straight or branched chain (C₁-C₆)alkyl group or a (C₃-C₆)cycloalkyl(C₁-C₆)alkyl, phenyl(C₁-C₂)alkyl or phenacetyl group, the phenyl group or groups present in the Rb, Rb' and Rb'' substituents being non-substituted or substituted by a halogen atom or by a hydroxy, (C₁-C₃)alkoxy, cyano, nitro or acetyl group, with the proviso that, when Rb and Rb' are both H, then Rb'' is other than a hydrogen, (C₁-C₆)alkyl or non-substituted benzyl and that, when Rb is a hydrogen and Rb' is a non-substituted benzyl, a N-benzyloxycarbonyl-*S*(-)-2-aminopropionyl, a *R*(+)-2-aminopropionyl or *S*(-)-2-aminopropionyl, then Rb'' is other than hydrogen; or one of its pharmaceutically acceptable salts, in admixture with a pharmaceutically acceptable carrier.

7. Pharmaceutical composition according to claim 6, wherein said active principle is selected from the group comprising 2-oxo-2-phenylethyl *R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, cyclopropylmethyl *R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, 4-acetylphenyl *R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, N-[2-*R*(+)-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, N-[2-*S*(-)-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, ethyl N-[*S*(-)-2-aminopropionyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, methyl N-[2-*S*(-)-benzyloxycarbonylamino]propionyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, ethyl N-[2-*S*(-)-benzyloxycarbonylamino]propionyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, N-[2-*R*(+)-benzyloxycarbonylamino]propionyl]-

R(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, methyl N-[2-[*R*(+)-benzyloxycarbonylamino]propionyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, N-[2-[*S*(-)-*N,N'*-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoic acid, the pharmaceutically acceptable salts thereof, methyl N-[2-[*R*(+)-*N,N'*-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, methyl N-[2-[*S*(-)-*N,N'*-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, ethyl N-[2-[*R*(+)-*N,N'*-bis-benzyloxycarbonyl-2,6-diaminohexanoyl]-*R*(+)-2-amino-3-hydroxypropanoate, the pharmaceutically acceptable salts thereof, ethyl N-benzyl-*R*(+)-2-amino-3-hydroxypropanoate and pharmaceutically acceptable salts thereof.

8. A *R*(+)-2-amino-3-hydroxypropanoic acid derivative of formula III



wherein *R* is a hydrogen; *R'* is a hydrogen, a phenyl(*C*₂-*C*₆)alkenyl, gem-diphenyl(*C*₁-*C*₆)alkyl group other than benzhydryl, gem-diphenyl(*C*₂-*C*₆)alkenyl; *R* and *R'*, together, form a phenyl(*C*₁-*C*₆)alkylidene or gem-diphenyl(*C*₁-*C*₆)alkylidene group; *R''* is a hydrogen or a (*C*₁-*C*₆)alkyl, (*C*₃-*C*₆)cycloalkyl(*C*₁-*C*₆)alkyl, phenyl(*C*₁-*C*₂)alkyl or phenacetyl group; the phenyl group or groups being non-substituted or substituted by a halogen atom or by a hydroxy, (*C*₁-*C*₃)alkoxy, cyano, nitro or acetyl group, with the proviso that, when *R* and *R'* are both hydrogen, then *R''* is other than a hydrogen, (*C*₁-*C*₆)alkyl or non-substituted benzyl; or one of its pharmaceutically acceptable salts.

9. A *R*(+)-2-amino-3-hydroxypropanoic acid derivative according to claim 8, of formula III, where *R'* is a ω-diphenyl(*C*₂-*C*₆)alkyl group.
10. *R*(+)-N-(4,4-diphenyl)butyl-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salt thereof.
11. *R*(+)-N-[(4,4-diphenyl)-3-butenyl]-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salt thereof.
12. *R*(+)-N-[α-phenyl-(2-hydroxy)benzylidene]-2-amino-3-hydroxypropanoic acid or a pharmaceutically acceptable salt thereof.